

Economics and Sociology  
Occasional Paper #726

GOVERNMENT FOREIGN BORROWING AND  
ECONOMIC GROWTH: THE  
JAMAICAN EXPERIENCE

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May 28, 1980

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The external debt of developing countries expanded tremendously during the decade of the 1970's. Katz (13) estimated that their outstanding external debt increased from US \$57 million in 1969 to US \$258 million in 1977, growing at an average annual rate of 20 to 21 percent. Government debt is a major component of this growth. In terms of the influential theoretical models developed in the 1960's, such a rapid expansion of foreign capital inflows should have stimulated economic growth (Chenery and Strout (5), McKinnon (15) ). Instead, the economies of the less developed countries have deteriorated.

Three broad explanations have been advanced for this simultaneity of debt expansion and economic depression. Demand-oriented explanations argue that developing countries have increased their foreign liabilities in order to moderate the stagflationary effects of rising energy prices (e.g. Seria (18), Islam (12) ). Supply-oriented studies emphasize the profit-seeking behavior of international banks burdened with post-OPEC excess liquidity (e.g. DeWitt and Petras (7), Stallings (19), Aronson (1), Lipson (14) ). While they deal with important facets of the debt problem, these two explanations ignore an equally important aspect: namely, that the debt expansion might have contributed to the economic difficulties experienced by LDCs. The third broad explanation deals with the latter possibility. Most of the related literature focuses on the effect of foreign capital on domestic savings (e.g. Rahman (17), Weiskopf (22), Dacey (6), Griffin and Enos (8) ). Recent writings by

Bhagwati and Grinols (3,9) extended the analysis to the critical issues of dependence and stabilization. A few studies emphasize the influence of public economic management on resource allocation (Holsen (11), Hollist (10) ).

This study of the Jamaican experience is within the third genre of debt and development analyses. Extending the macro-economic framework developed by Bhagwati-Grinols and Dacey, it evaluates the influence of government foreign debt on the performance of the Jamaican economy during the 1970's. Its central thesis is that government foreign borrowing contributed to economic decline and increased financial dependence. Domestic debt, though important, is not analyzed here. The study also does not take full account of other facets of government behavior and of non-governmental activities which affected the economy. The analysis is partial. Nonetheless, its qualitative conclusions are unlikely to be invalidated by a comprehensive, general equilibrium treatment.

The next section of the paper briefly describes the performance of the Jamaican economy at the start of the decade and its rapid deterioration during the rest of the 1970's. An examination of the growth and structure of Jamaican government foreign debt then follows. The remainder of the paper analyzes the influence of the debt on economic performance.

#### JAMAICAN ECONOMIC GROWTH AND RECESSION<sup>1</sup>

Jamaica is a small Caribbean island economy, occupying approximately 11,000 square kilometers and with a population of 2.2 million

persons. Its per capita income in 1970 was J \$600 (US \$720). The economy is very open and dependent. Foreign trade comprised 74 percent of GNP in 1970. Of this, exports were 35 percent and imports 39 percent. Net foreign borrowing amounted to 22 percent of gross accumulation and 30 percent of national savings. The open unemployment rate was 18 percent. During the 1960's and early 1970's, real income (in 1970 prices) grew moderately. The average annual rate of growth of real GNP was 4 percent between 1965/67 and 1970/2. Real GNP per capita grew at 3 percent per annum. Inflation was mild, not exceeding 3 percent per year, in the 1960's. Small balance of payments surpluses were consistently achieved. External debt was a small proportion of GNP.

During the decade of the 1970's, the Jamaican economy experienced a prolonged, deep recession. Real GNP declined at an annual average rate of 1.6 percent between 1972 and 1977; real per capita GNP declined by 3 percent. Income declined in each year. Inflation rates rose rapidly from 9 percent per annum in 1972 to an average of 22 percent between 1974 and 1975, and after decelerating to 10 percent during the next two years, accelerated to 49 percent in 1978. Open unemployment increased to 24 percent of the labor force in 1977. The balance of payments deteriorated to crisis levels, moving from a surplus of J \$44 million in 1972 to a deficit of J \$238M. in 1976. Net official foreign reserves, which amounted to J \$157 million in March 1972, decreased sharply to minus J \$424 million in December 1978. Total foreign debt expanded from J \$350 million (22 percent of GNP) in 1973 to J \$1630 million (47 percent of GNP) in 1978.<sup>2</sup> On the basis of Katz's data,

it appears that only four out of twenty middle income non-oil producing Latin American and Caribbean countries, namely Bolivia, Guyana, Panama, and Peru, had higher external debt-GNP ratios in 1977. Annual net foreign borrowing increased to an average of 37 percent of gross accumulation between 1973 and 1978.

Thus, the Jamaican economy moved from a situation of relatively comfortable economic growth and foreign debt in the 1960's to acute economic crisis and greater financial dependence by the end of the 1970's. It will be argued that these changes are partly a consequence of the Jamaican government's foreign debt operations.

#### GOVERNMENT FOREIGN DEBT: TRENDS AND STRUCTURE

Direct government foreign debt was the major expansionary element in the total external debt of Jamaica. Private and government-guaranteed debt while increasing until 1976 grew less rapidly than direct government debt. Private foreign debt stagnated, the small increases towards the end of the period being attributable to growing arrears in debt repayments caused by foreign exchange controls. Government guaranteed debt of public utilities and quasi-governmental enterprises expanded faster than private debt. However, the major growth element was direct government debt, which increased from 29 percent of external debt in 1973 to 44 percent in 1978. Table 1 contains information on the gross foreign debt of the Jamaican government in current values and in constant 1970 prices. Annual percentage changes are also detailed. It can be seen from Columns 1 and 2 that the nominal gross foreign debt expanded from J \$100 million

Table 1. JAMAICAN GOVERNMENT GROSS FOREIGN DEBT OUTSTANDING  
AT END OF PERIOD.

Year	Nominal Gross Foreign Debt		Real Gross Foreign Debt		Nominal Gross Foreign Debt		Real Gross Foreign Debt	
	March 31		March 31		Dec. 31		Dec. 31	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	J\$M	Percent Change	J\$M	Percent Change	J\$M	Percent Change	J\$M	Percent Change
1970	100	-	110	-	103	-	103	-
1971	102	2	102	-7	110	7	103	0
1972	117	14	109	7	128	16	117	13
1973	147	26	135	23	177	39	134	16
1974	206	40	156	16	272	54	158	18
1975	274	33	159	2	382	40	189	20
1976	398	45	197	24	444	16	198	5
1977	472	19	211	7	485	9	191	-4
1978	625	32	246	16	1175	142	361	9

SOURCE: Columns (1) to (4) based on debt data in Jamaica Department of Statistics Monetary Statistics; Columns (5) to (8) based on data in Bank of Jamaica Annual Reports. Deflation is by implicit GDP deflator (1970=100) lagged one year for Column (3), and unlagged for Column (7).

at March 31, 1970 to J \$625 million at March 31, 1978. Growth was particularly rapid after 1972. The end of year data on the nominal foreign debt show a faster upward trend largely because of a much larger percentage increase late in 1978.

One important reason for this debt expansion is the rapid increase in real government expenditures relative to fiscal revenues. Another reason is the policy of financing the current account deficit by foreign borrowing. Private capital inflows, which had historically offset current accounts deficits, became inadequate after 1972. Consequently, the government began to substitute foreign loans (mainly Eurocurrency) to finance the current account deficit. Debt increases also reflect the impact of domestic inflation on the money value of government transactions. Further, the local currency value of the debt in 1978 was greatly inflated by an exchange rate devaluation totalling 86 percent for government transactions.<sup>3</sup>

Government foreign debt grew in proportion to gross national product. Gross debt outstanding at year-end comprised 9 percent of GNP in 1970, rose to 11 percent in 1973, and by 1978 comprised 34 percent of GNP (Table 2, Column 2). Estimated annual gross debt inflows naturally are a smaller proportion of gross national product. Columns 3 and 4 show the growth of annual gross debt inflows absolutely and as a percentage of GNP. These trends in the government foreign debt: GNP ratios demonstrate that government debt operations increased Jamaica's foreign financial dependence in this period.



Table 2. JAMAICAN GOVERNMENT FOREIGN DEBT AND ANNUAL GROSS FOREIGN DEBT INFLOWS IN RELATION TO GNP.

	Gross Foreign Debt Outstanding (Dec. 31)		Annual Gross Foreign Debt Inflow	
	J\$M	Percent GNP	J\$M	Percent GNP
1970	103	9	0	0
1971	110	9	15	1
1972	128	9	22	2
1973	177	11	48	3
1974	272	13	88	4
1975	382	16	120	5
1976	444	18	72	3
1977	485	18	37	1
1978	1175	34	250	7

SOURCE: Gross debt outstanding obtained from Bank of Jamaica Annual Reports; Annual Gross Debt Inflows from Bank of Jamaica Balance of Payments of Jamaica; and GNP from Jamaica Department of Statistics National Income and Product Accounts.

Project and program aid loans from multilateral agencies and Western governments decreased substantially as a proportion of Jamaican government foreign debt. In contrast, the quantitative importance of commercial credit (essentially commercial bank loans and suppliers credit) increased. These commercial debts averaged 77 percent of Jamaican government gross foreign debt between 1970 and 1975, then declined to 63 percent in 1977 and 51 percent in 1978. Government indebtedness to foreign commercial banks rose particularly fast from 1973. This component of the debt amounted to J \$14 million (in current prices) or 14 percent of total government foreign debt at the end of 1970, and rose to J \$46 million (34 percent of total government foreign debt) by December 1973. Its share of total government foreign debt, having peaked at 68 percent in 1975, decreased to 45 percent in 1978.

The term to maturity structure of the Jamaican government foreign debt was shortened by the large share of foreign commercial credits. Table 3 contains data showing the changes over time. "Short term" debt (i.e., 0 to 5 years) was a negligible proportion of total foreign debt in 1970. "Short to medium" term debt (5-10 years) accounted for 11 percent, "medium" term debt (10-15 years) for 16 percent, and long term debt (more than 16 years) for 73 percent.<sup>5</sup> Short to medium and medium term debt increased their shares relative to long term debt between 1972 and 1974. Short term debt made the major gains after 1974.

### FOREIGN DEBT, CAPITAL FORMATION AND GROWTH

Government foreign debt can contribute to domestic capital formation and economic growth by closing the savings and foreign exchange gaps (Chenery and Strout (5) ). Domestic savings are usually inadequate to finance accelerated development. Foreign debt can supplement domestic savings. Furthermore, since developing countries are not self-sufficient in the production of capital goods required to transform financial savings into investment, capital formation is constrained by the capacity to import (Sen Gupta (20) ). Foreign debt satisfies some of the associated foreign exchange requirements. These two potential roles of government foreign debt are illustrated with the help of a simple Harrod-Domar open economy model.

Define national income, domestic savings, trade gap, and government foreign inflows by the following equations

$$(1) \quad Y = C + I + X - M$$

$$(2) \quad I - S = M - X = D$$

$$(3) \quad I = kyY$$

where  $Y$  is national income,  $C$  is consumption,  $I$  is investment,  $X$  is exports,  $M$  is imports,  $S$  is domestic savings,  $D$  is government foreign debt inflows,  $k$  is the incremental capital output ratio, and  $y$  is the annual growth rate of national income. Then substituting for  $I$  from equation (2) into equation (3) and solving for  $y$  yields:

$$(4) \quad y = \frac{1}{k} (s + d)$$

where  $s$  is the average domestic propensity to save, and  $d$  is the ratio of government foreign debt to national income.

Table 3. PERCENTAGE MATURITY COMPOSITION OF JAMAICAN GOVERNMENT FOREIGN DEBT.

Year	0 to 5 Years	5 to 10 Years	10+ to 15 Years	More Than 15 Years	All
1970	0	11	17	73	100
1971	11	8	16	65	100
1972	7	23	15	55	100
1973	6	33	23	38	100
1974	4	30	38	28	100
1975	26	50	11	12	100
1976	24	51	13	12	100
1977	36	34	12	18	100
1978	46	16	8	30	100

SOURCE: Estimates for 1970 to 1974 obtained from IMF Country Reports; 1975 to 1978 from Bank of Jamaica Annual Reports.

Assume further an import constraint  $M \geq mI$  where  $m$  is the minimum ratio of imports to investment, and substitute for  $m$  in equation (3) and solve for  $y$ :

$$(5) \quad y \leq \frac{x + d}{mk}$$

where  $x$  is the ratio of exports to national income.

Equations (4) and (5) make clear the potential income generating role of government foreign borrowing. For the moment, the relationship embodied in equation (4) is of primary concern. Assuming constant domestic savings and capital output ratios, an expansion of government foreign debt contributes to growth provided that the debt is used for investment. Jamaican government foreign debt operations are now analyzed in terms of the latter proviso. Specifically, an attempt is made to assess the degree to which debt has been transformed into investment.

Rahman (17) demonstrates that any reasonable inter-temporal utility maximizing model of government borrowing would predict some allocation of foreign loan receipts to current consumption. The increasing shares of commercial credits and short term loans in the Jamaican government debt structure shown in Table 3 suggests that a rising proportion of external debt was allocated to consumption rather than to capital investment. The absence of lender restrictions on the use of these credits and the corresponding freedom of the government to consume foreign loans made these types of commercial credits particularly attractive. Further, some proportion of foreign funds were

expended in the nationalization of foreign enterprises, mainly hotels. While the government budgetary accounts record these transactions as capital expenditures they clearly do not add to the country's capital stock. Strictly defined, they are consumption expenditures.

Foreign governmental and multilateral lending agencies which provided 28 percent of the gross external debt between 1970 and 1977, have usually restricted the use of their funds to investment projects. However, even when loan uses are specified and there is no explicit credit diversion to consumption purposes, external debt may result in less additional investment than the debt statistics imply (Von Pischke and Adams (21) ). The fungibility of credit permits the substitution of foreign funds for local budgetary resources in investment projects. Those local resources are then allocated to consumption expenditures which would not have been financed in the absence of the foreign resources. In such cases, the increase in domestic investment is less than the foreign debt inflow.

Jamaican government expenditure data are not sufficiently well classified to enable quantitative estimates of the investment additionality of government foreign borrowing. Nonetheless, an analysis of some unrefined statistical series provides a basis for qualitative conclusions. Table 4 reports the annual levels and percentage changes in real domestic investment and capital expenditures by the government and the economy as a whole. Column 1 shows real government capital expenditure increasing rapidly from J \$63 million in 1970 to J \$182 million in 1977, the average annual rate of growth being 19 percent.

Table 4. JAMAICAN REAL CAPITAL EXPENDITURES AND INVESTMENT

Year	Real Govt. Capital Expenditures (Mar. 31)		Total Real Gross Fixed Investment	
	\$M (1)	Percent Change (2)	\$M (3)	Percent Change (4)
1970	63	—	367	—
1971	76	21	333	9
1972	84	10	335	1
1973	88	5	339	1
1974	78	-12	277	-18
1975	149	92	302	9
1976	161	8	201	-33
1977	182	13	135	-33
1978	140	-23	149	10

SOURCE: Government capital expenditure data from Jamaica Department of Statistics Monetary Statistics; fixed investment data from National Income and Product Accounts. Deflator is implicit GDP deflator (1970 = 100), lagged one year for capital expenditures, and unlagged for fixed investment.

The rate of capital expenditure growth is greater than the 10 percent recorded for real foreign debt, thereby implying a considerable investment impact of government foreign borrowing. This interpretation derives some support from the fact that government recurrent expenditures increased less rapidly than capital expenditures (i.e. by 9 percent) and indeed less rapidly than government foreign debt. Thus government capital expenditure increased relative to resource availability. However, this assessment of the investment effects of government foreign debt must be qualified in view of the following considerations.

Increases in the gross debt outstanding underestimate the growth of gross debt inflows which strictly speaking should be the flows correlated with capital expenditures. The underestimate arises from the fact that repayment of old debt is synchronous with inflows of new debt. Stock changes in the debt outstanding are the net outcome of these two transactions and are therefore smaller than the gross inflows whenever debt payments are being made. Further, there is no additionality from the proportion of debt inflows utilized to repay old debt. Another important qualification is that the budgetary data on capital expenditures overestimate the growth in government investment. The earlier comment about the use of debt proceeds for nationalization is pertinent. National income accounts data support the contention that capital expenditures overestimate government investment. The average annual percentage change in government consumption computed on the basis of national income data is larger (13 percent) than that computed with budgetary data on recurrent



expenditures (9 percent). In other words, the capital expenditure series overestimate government investment expenditures thereby implying a larger investment effect of foreign debt than actually occurred.

Two further considerations are that not all government capital expansion is foreign financed, and not all government debt is expended in the government sector itself. Government expenditures were also financed with local debt proceeds. The real gross domestic debt increased from J \$172 million in 1970 to J \$299 million in 1976, and nearly doubled to \$529 million in 1977. Domestic debt averaged 63 percent of the total gross debt of the government between 1970 and 1978. Therefore, it is necessary to relate capital expenditure growth to changes in the total government debt. Such a comparison reveals that real total government debt expanded at an annual average rate of 15 percent compared to the 17 percent growth of capital expenditures. These statistics indicate less investment effect than the comparison of external debt and capital expenditures implied. Finally, since some of the external debt ostensibly finances private sector accumulation through loans by public sector development banks and agencies, it is necessary to remove this component from the government debt series in order to establish a meaningful basis for comparison between the debt series and the government investment series. Data constraints prevented this exercise.

The preceding discussion reveals the difficulty of drawing any firm conclusions about the influence of Jamaican government foreign debt on capital formation. It appears that the influence was a positive

one. Government debt operations boosted the overall rate of capital formation in the economy through its own direct investment and through the financial contributions of governmental agencies to private investment. Yet, as Table 4 (Columns (3) and (4) ) shows, the investment performance of the economy deteriorated considerably during this period. It can be said that government debt operations moderated this decline in investment. However, a relevant question is whether the debt operations themselves were negatively linked with private investment behavior.

#### FOREIGN DEBT, TAXATION AND DOMESTIC SAVINGS

Government foreign debt can influence growth via its effects on domestic savings behavior. Critical parameters are government propensity to consume foreign debt proceeds, government propensity to consume tax revenues, the tax-GNP ratio, the private consumption-disposable income ratio, the national savings rate, and the incremental capital output ratio. The theoretical relationships are shown in the following model adapted from Dacey (6).

Let national savings  $S^*$  be comprised of private savings,  $S_p$ , government savings,  $S_G$ , and government debt inflows,  $D$ .

$$(6) \quad S^* = S_p + S_G + D$$

Private savings is determined by disposable national income  $Y_d$ :

$$(7) \quad S_p = \alpha Y_d$$

where disposable income is the difference between national income and tax revenues,  $R$ . That is,

$$(8) \quad Y_d = Y - R$$

Government savings is the difference between government tax revenues and government consumption,  $C_G$ :

$$(9) \quad S_G = R - C_G$$

Government consumption is itself defined by:

$$(10) \quad C_G = C_G(-1) + \delta(R - R(-1)) + \lambda(D - D(-1))$$

where  $(-1)$  indicates the one period lagged value of the variables,  $\delta$  is the government propensity to consume taxes, and  $\lambda$  is its propensity to consume foreign debt. Further define tax revenues, national income, and the growth of income by the following three equations

$$(11) \quad R = \zeta Y$$

$$(12) \quad Y = (1 + y(-1)) Y(-1)$$

$$(13) \quad y = s^*/k$$

where  $\zeta$  is the effective tax rate, and  $s^* = S^*/Y$ .

Combining equations (9), (10) and (11) one obtains

$$(14) \quad S_G - S_G(-1) = \zeta(1 - \delta)(Y - Y(-1)) - \lambda(D - D(-1))$$

and combining equations (7), (8), (11), (12) and (13) yields:

$$(15) \quad S_p = (\alpha + \alpha s^* k^{-1} - \alpha \zeta - \alpha \zeta s^* k^{-1}) Y(-1)$$

Equation (14) shows that government savings decline so long as the proportion of incremental foreign debt inflows consumed exceeds government savings out of tax revenues generated by nominal income growth. Whether this happens depends on the magnitudes of the changes in the variables and the relative size of the parameters,  $\zeta$ ,  $\delta$ , and  $\lambda$ . Furthermore, any depression in government savings in response to foreign debt can only be offset if increases in personal savings induced by income growth are large enough to accommodate both the fiscal revenue

drag on private savings, i.e.  $(-\alpha\zeta - \alpha\zeta_s * k^{-1})$  in equation (15), and the negative effect of the debt on government savings.

The Jamaican government propensity to consume foreign debt seems to be small. However, as Table 5 shows the tax rate has been growing over time, expanding government revenues and expenditures inspite of the deceleration of nominal income. The government propensity to consume tax revenues which is much larger than the tax rate and most likely larger than the propensity to consume foreign debt rose from .67 in 1970 to .85 in 1976. The potential for debt-induced leakage of fiscal savings existed throughout the period. Utilizing historical values for the parameters, foreign debt inflows, and nominal GNP together with hypothetical values of the propensity to consume debt, one can illustrate the effects of foreign debt on government savings. Table 6 reports the proportion of fiscal savings lost through government consumption of foreign debt for average propensity to consume debt equal to .1, .3, and .5 respectively. Even for the lowest assumed propensity to consume debt, the calculations reveal sizeable contractionary effects on government savings between 1971 and 1975 when net increments in debt inflows were positive.

The depressing influence of government debt consumption was not offset by expansions in private savings. Total nominal domestic savings declined from J \$175 million in 1970 to minus J \$47 million in 1977. Dissavings within the personal sector began in 1971 but were offset by increases in the corporate savings rate from an average of 46 percent (1965-70) to 57 percent (1971-75). However, corporate savings itself contracted substantial after 1976. As a result, the overall ratio of

Table 5. JAMAICAN PROPENSITIES TO CONSUME EFFECTIVE TAX RATES AND INCREMENTAL CAPITAL-OUTPUT RATIOS

	Tax as % GNP	Govt. Consumption as % Tax Revenue	Private Consumption as % Disposable Income	ICOR
Year	(1)	(2)	(3)	(4)
1970	20	67	87	1.4
1971	22	64	93	2.9
1972	22	70	95	0.9
1973	21	84	87	2.1
1974	27	69	99	0.6
1975	27	76	99	1.3
1976	28	85	109	2.6
1977	31	76	113	.3
1978	33	70	111	.2

SOURCE: All computations based on data in Jamaica Department of Statistics National Income and Product Accounts.

private savings to GNP declined. Table 5, Column 3 indicates the rise in private consumption as a proportion of disposable income. The economy did not experience any improvements in productivity to compensate for lower levels of real investment. Column 4, Table 5 shows that there was no tendency for the incremental capital-output ratio to fall. The very small values of the ICOR in 1977 and 1978 merely reflect the abnormal situation of practically no real investment and massive consumption of existing capital stock. The combination of these trends in the effective tax rate, private consumption propensities, and the incremental capital-output ratio resulted in a fiscal drag on private savings equivalent to 20 to 30 percent of private savings between 1970 and 1977 (Table 6).

The depression of private savings and investment is not attributable solely to fiscal policy. Other forces were at work (Bourne 4). Investment in the mining industry declined because capital stock had been built up sufficiently during the preceding decade, because final demand contracted during the U.S. economic recession in 1973 and 1974, and possibly as a power play by the companies to protest a bauxite production levy imposed by the Jamaican government in 1974. Investment in other sectors was adversely affected by declining levels of profits and greater profit instability, by reduced availability of imported capital goods, and by political uncertainty. Notwithstanding the influence of these other factors, the fiscal drag on private savings and investment was undeniably important.

Table 6. ILLUSTRATIVE MEASURES OF DEBT AND FISCAL EFFECTS  
ON GOVERNMENT AND PRIVATE SAVINGS

Year	Percentage Fiscal Savings Lost Through Foreign Debt			Percentage Fiscal Drag on Private Savings
	$\lambda = .1$	$\lambda = .3$	$\lambda = .5$	
1970	-3	-8	-14	20
1971	21	63	106	22
1972	5	15	25	21
1973	23	68	114	21
1974	9	27	45	29
1975	13	40	67	25
1976	-3	-9	-15	28
1977	-21	-64	-106	31

SOURCE: Computed on basis of national income data in Jamaica  
Department of Statistics National Income and Product  
Accounts.

FOREIGN DEBT SERVICE AND RESOURCE ALLOCATION

The influence of Jamaican government foreign debt transactions is not confined to the investment and savings aspects analyzed so far. Interest and amortization payments on the foreign debt are of considerable importance. These debt service and redemption payments constitute an outflow of foreign exchanges. They are competing claims on the foreign purchasing power of the economy, competing with demands for foreign exchange for the purchase of imported consumer, intermediate, and capital goods and services. If debt service absorbs a large proportion of available foreign exchange resources, foreign debt adversely affects domestic consumption, production, and economic growth.

Table 7 indicates the increase in debt payments on interest and capital account in current values and as percentages of gross exports of goods and services. Interest payments on government debt rose particularly rapidly between 1973 and 1978 largely as a consequence of the growth in the debt itself and also because of higher rates of interest prevailing on commercial debts. A separate series is not available for amortization payments on purely government debt as distinct from government-guaranteed debt. The Table therefore reports amortization payments on direct and indirect government foreign debt. As can be seen from column 4 of the Table, these payments absorb a significant and growing proportion of the current foreign exchange earnings of Jamaica. The severity of the burden on foreign exchange resources is accentuated by the fact that since 1976 the economy had no gross foreign reserves but instead has foreign reserve liabilities totaling J \$424 million at the end of 1978. Moreover, the debt cycle phenomenon



Table 7. JAMAICA FOREIGN DEBT SERVICE RATIOS

Year	<u>Interest Payments</u>			<u>Amortization</u>		<u>Interest Plus Amortization</u>	
	Gov't Debt	Gov't Guaranteed Debt	Total as % Exports of Goods & Services	Total \$M	Percent of Exports of Goods & Services	\$M	Percent of Exports of Goods & Services
	\$M (1)	\$M (2)	(3)	(4)	(5)	(6)	(7)
1972	7	3	2	6	1	16	3
1973	8	6	2	1	—	15	2
1974	13	12	3	24	3	49	6
1975	25	20	4	31	3	76	7
1976	30	23	6	48	6	101	12
1977	30	24	6	79	9	133	15
1978	40	18	3	281	16	339	19

SOURCE: Computations based on data in Bank of Jamaica Annual Reports.

identified by Avramovic (2) is evident in the Jamaican case. In 1977, unlike earlier years, debt payments exceeded new debt inflows, thereby increasing the demands on current export earnings.

The rising foreign debt payments in a situation of rapidly diminishing foreign reserve availability and limited reversibility of government's own foreign exchange demands led to some rationing out of private demands for foreign exchange. Government accommodated its own requirements by crowding out the transactions of the non-governmental sectors, thereby causing the pronounced decline in consumer and capital goods imports after 1972. The post-OPEC increase in the import bill fuel and other raw material was also a depressing influence on consumer and capital goods imports. However, recognition of this factor does not negate the conclusion that debt payments depressed import expenditures.

Foreign debt payments absorbed domestic financial resources as well. Domestic currency was expended to acquire the requisite foreign currency from the public. The government secured the required domestic financial resources by local debt creation and by fiscal measures. Consequently, there was a net outflow of resources equal to the interest payments on the foreign debt. This transfer of resources is burdensome since the consumption content of Jamaican government debt expenditures make it unlikely that the debt generated a stream of income greater than the interest payments.

#### THE EFFECTS OF ABRUPT DEBT TERMINATION

After building up rapidly to J \$120 million in 1975, gross foreign debt inflows decreased drastically to J \$37 million in 1977. Debt

payments exceeded gross inflows in 1977. Abrupt cessation or large reductions in gross foreign debt inflows have several deleterious effects on current and future economic activity. Government consumption which increased under the influence of debt funds has limited reversibility and therefore did not fully adjust downwards in response to the reduced inflows of debt. Nominal gross debt inflows declined by 40 percent in 1976 and 48 percent in 1977. In real terms, the percentage declines were 46 and 55 percent respectively. In contrast, nominal government consumption expenditures increased by 23 percent in 1976 and 10 percent in 1977, and real government consumption expenditures rose by 12 and 3 percent in those years. The continued growth of government consumption expenditure was financed by increases in the average effective rate of taxation which depressed private savings and further depressed the growth rate of income.

Domestic debt creation also stimulated growth in government consumption. The government substantially increased the level of deficit financing throughout the period. Deficits were J \$41 million in 1970, but by 1976 amounted to J \$418 million in nominal terms and J \$187 million in 1970 prices. The deficit as a percentage of GNP rose from 4 percent in 1970 to 17 percent in 1976. There was some restraint on further growth in 1977 under the terms of the Standby Loan Agreement made with the International Monetary Fund in May 1977. The deficit was financed partly by absorbing some of the financial savings of the community. Credit from commercial banks, the main savings institutions, increased from J \$44 million (11 percent of bank assets) in 1970 to

J \$100 million (10 percent) in 1975 and much more rapidly to \$248 million (33 percent of bank assets) in 1977. Much of the expansion in government internal debt was in the form of central bank credit. The money value of central bank direct credit to the government escalated from J \$41 million (4 percent of GNP) in 1970 to J \$402 (14 percent of GNP) in 1977. This massive expansion in credit to the government was inflationary. Thus, the short-lived expansion of foreign debt caused domestic price inflation by inducing higher levels of government consumption that subsequently could only be sustained by monetary and credit expansion.

The reduction of debt inflows to the government contributed to the inflationary pressures in yet another way. Debt expenditures generated complementary import demands in excess of the debt proceeds (Polak (16) ). During the downswing of the debt cycle, the economy was left with debt-stimulated import demands by households and firms in excess of the reduced availability of foreign exchange. These demands have been partly rationed out by government restrictions on trade and capital transaction. Consequently domestic supply was reduced and excess demand widened with inflationary effects.

Productivity and income effects of foreign debt inflows are reversible when debt inflows cease (Bhagwati and Grinols (3) ). The reduced availability of imported inputs resulted in under-utilized installed productive capacity. The degree of under-utilization was accentuated by government crowding out of private import demand. In some circumstances, unavailability of imported inputs led to markedly lower levels of production, closures, and unemployment. Further, the

reduction of capital goods imports resulted in the contraction of investment. Some idea of the importance of these effects can be given by use of the Bhagwati-Grinols model. Total investment falls by a multiple of  $(1 + \lambda)$  times the reduction in imports, that is by the sum of the import reduction and the imports absorbed through debt consumption. The decrease in investment then has a multiplier effect on income of  $(1 + \beta k^{-1}) t_k^{-1}$  where  $\beta$  is the private propensity to consume disposable income. On the basis of the average private consumption propensity between 1974 and 1976, the average incremental capital output ratio for the period 1970 to 1976, and the average import reduction in 1976 and 1977, the income losses associated with a 10 percent government propensity to consume debt were computed for four years following upon the import decline. The computed dollar amounts are \$132 million for year 1, \$228 million for year 2, \$264 million for year 3 and \$300 million for year 4. For larger assumed values of the government propensity to consume foreign debt, the computed income losses are much greater. These figures, though based on a rather simple model, do make the point that debt cessation in the context of debt dependence results in substantial contractions of Jamaican national incomes. The current economic dislocation and the pleas by Jamaican officials for new debt and debt rescheduling attest to the importance of these economic effects.

#### CONCLUSION

This study examined the connection between Jamaican government foreign borrowing and the economic recession in Jamaica during the

1970's. It was argued that though government foreign borrowing appears to have contributed to government fixed investment, the investment additionality of the debt was less than the rapid growth of the debt may imply. Some debt proceeds were allocated to government consumption. Government foreign borrowing also led to lower levels of government savings and to lower levels of private savings. Thus, government foreign borrowing depressed domestic savings. Debt service and amortization payments absorbed an increasing proportion of foreign exchange and domestic resources thereby reducing the availability of consumer and capital goods imports for the nongovernmental sectors of the economy, and increased income transfers from Jamaica to its foreign creditors. The abrupt downswing in gross foreign debt inflows to the Jamaican government further aggravated economic difficulties by resulting in higher rates of taxation which depressed private savings and in inflationary finance as the government attempted to maintain its previous levels of real consumption expenditures. Inflationary pressures were also increased by import restrictions which sought to ration out those private import demands induced by the previous foreign borrowing. Finally, debt contraction reversed earlier growth impulses by resulting in excess capacity and lower levels of investment. The main conclusion to be drawn from this analysis is that excessive government foreign borrowing is a major cause of the serious economic difficulties currently being experienced by Jamaica.

These economic problems could have been mitigated by early adoption of appropriate policies of consumption restraint and export

promotion. The balance of payments crisis and associated foreign exchange rationing which retarded production and growth were the outcome of deteriorating export production performance analyzed by Bourne (4). The basic solutions lie in the area of production levels and structure. Since adjustment is likely to be protracted, external finance can perform a valuable facilitatory function in smoothing the transition. The actual influence of foreign debt does not depend on any intrinsic characteristic of debt per se. External debt is not necessarily debilitating, even when allowances are made for the economic costs associated with loan conditionality. Domestic economic policies at different stages of the debt cycle are central to the influence of foreign borrowing on domestic economic performance. When governmental policies are not soundly based and necessary policy initiatives are not taken or are weakly adopted, then government foreign borrowing is likely to adversely affect economic development and further increase national dependence on foreign finance.

For countries, like Jamaica, which enter the acute stages of economic depression with insufficient foreign exchange to service foreign debt without deleterious consequences for current production and living standards, the future is indeed bleak. All the remaining options - new debt, debt renegotiations, unilateral rescheduling (the current euphemism for default) - are very painful though not necessarily equally so.

NOTES

- \* Revised version of a paper presented at Annual Conference of Caribbean Studies Association, Curacao, May 8-10, 1980.
- 1. The empirical data utilized in this study, except where otherwise stated, were obtained from the following official sources: Jamaica Department of Statistics, National Income and Product Accounts, and The Labour Force; Bank of Jamaica Annual Reports, monthly Statistical Digest, and Balance of Payments of Jamaica.
- 2. Katz (13) reports higher ratios of foreign debt to GNP. His estimated ratios are .63, .60, and .45; 1973, 1976, and 1977 respectively.
- 3. The exchange rate for government transactions was devalued 15.5 percent in January 1978, then by 48 percent in May, and a phased devaluation of 9 percent over the remaining months of the year. The devaluation was particularly steep for government transactions since these were excluded from the earlier devaluations in 1977 when Jamaica temporarily adopted a dual exchange rate system. The dual rate system was terminated in April 1978.
- 4. Towards the end of the period, small commercial loans were also received from foreign governments, notably Canada and Venezuela.
- 5. The terms used here, i.e. "short", "short-to-medium", etc., are not definitive, and are merely convenient ways of labelling the particular debt categories.



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